

In response to the Office Action dated April 9, 2003, please amend the above-identified application as follows:

**AMENDMENTS TO THE CLAIMS:**

Please amend the claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

1 1. (Currently Amended) An apparatus for decreasing the propagation delay time of an electrical  
2 signal transmitted from a source along a conductor in a circuit, the apparatus comprising:

3 a first conductor having a length extending from a first area of the circuit to a second  
4 area of the circuit and for carrying an electrical signal, the first conductor having a first end  
5 electrically coupled to the source capable of providing the electrical signal and a second end  
6 electrically coupled to a destination;

7 a second conductor having a length extending from the first area of the circuit to the  
8 second area of the circuit and located proximate the first conductor and extending substantially  
9 parallel to and along the first conductor, the second conductor having a first end electrically  
10 coupled in the first area of the circuit to the source and having a second end unconnected in the  
11 second area of the circuit; and

12 a third conductor having a length extending from the first area of the circuit to the second  
13 area of the circuit and located proximate the first conductor and extending substantially parallel

14    to and along the first conductor, the third conductor having a first end electrically coupled in the  
15    first area to the source and having a second end unconnected in the second area of the circuit,  
16    and wherein the second and third conductors reduce the effective capacitance of the first  
17    conductor thereby increasing the speed of the electrical signal when transmitted along the first  
18    conductor, wherein the second conductor is disposed below the first conductor and the third  
19    conductor is disposed above the first conductor.

1 3. (Currently Amended) The apparatus in accordance with Claim 1, further comprising:

2 a fourth conductor having a length extending from the first area of the circuit to the  
3 second area of the circuit and located proximate the first conductor and extending substantially  
4 parallel to and along the first conductor, the fourth conductor having a first end electrically  
5 coupled in the first area of the circuit to the source and having a second end unconnected in the  
6 second area of the circuit; and

7 a fifth conductor having a length extending from the first area of the circuit to the second  
8 area of the circuit and located proximate the first conductor and extending substantially parallel  
9 to and along the first conductor, the fifth conductor having a first end electrically coupled in the  
10 first area to the source and having a second end unconnected in the second area of the circuit,

11 wherein the first conductor, the fourth conductor and the fifth conductor are located  
12 substantially in a first plane.

1 4. (Previously Amended) The apparatus in accordance with Claim 3 wherein all of the  
2 conductors each comprise metal.

1 5. (Currently Amended) The apparatus in accordance with Claim 3 further comprising:

2 sixth and seventh conductors each having a length extending from the first area of the  
3 circuit to the second area of the circuit and located proximate the ~~first~~second conductor and  
4 extending substantially parallel to and along the ~~first~~second conductor, the sixth and seventh  
5 conductors each having a first end electrically coupled in the first area to the source and having  
6 a second end unconnected in the second area of the circuit; and

7 eighth and ninth conductors each having a length extending from the first area of the  
8 circuit to the second area of the circuit and located proximate the ~~first~~third conductor and  
9 extending substantially parallel to and along the ~~first~~third conductor, the eighth and ninth  
10 conductors each having a first end electrically coupled in the first area to the source and having  
11 a second end unconnected in the second area of the circuit.

1 6. (Previously Amended) The apparatus in accordance with Claim 5 wherein the second, sixth  
2 and seventh conductors are located substantially in a second plane and the third, eighth and  
3 ninth conductors are located substantially in a third plane.

1 9. (Previously Amended) The apparatus in accordance with Claim 1 wherein the electrical  
2 signal comprises a clock signal, and wherein the apparatus reduces the propagation delay of the  
3 clock signal when transmitted on the first conductor.

1 10. (Original) The apparatus in accordance with Claim 1 wherein the length of the first  
2 conductor is greater than about 1000 microns.

1 11. (Currently Amended) An electrical conductor for increasing the speed of an electrical signal  
2 transmitted along the conductor in an integrated circuit, the conductor comprising:

3 a first conductor having a first end in a first area of the integrated circuit and a second  
4 end in a second area of the integrated circuit, and having a length extending from the first area  
5 to the second area;

6 a second conductor located proximate the first conductor and having a first end in the  
7 first area of the integrated circuit and a second end in a second area of the integrated circuit, and  
8 extending substantially parallel to and along the first conductor from the first area to the second  
9 area;

10 a third conductor located proximate the first conductor and having a first end in the first  
11 area of the integrated circuit and a second end in a second area of the integrated circuit, and  
12 extending substantially parallel to and along the first conductor from the first area to the second

13 area, wherein the second conductor is disposed below the first conductor and the third conductor  
14 is disposed above the first conductor;

15 first means for electrically coupling the first end of the first conductor to the first end of  
16 the second conductor, and wherein the second end of the first conductor and the second end of  
17 the second conductor are not electrically coupled in the second area of the integrated circuit; and

18 second means for electrically coupling the first end of the first conductor to the first end  
19 of the third conductor, and wherein the second end of the first conductor and the second end of  
20 the third conductor are not electrically coupled in the second area of the integrated circuit.

1 13. (Currently Amended) The electrical conductor in accordance with Claim 11, further  
2 comprising:

3 a fourth conductor having a length extending from the first area of the circuit to the  
4 second area of the circuit and located proximate the first conductor and extending substantially  
5 parallel to and along the first conductor, the fourth conductor having a first end electrically  
6 coupled in the first area of the circuit to the source and having a second end unconnected in the  
7 second area of the circuit; and

8 a fifth conductor having a length extending from the first area of the circuit to the second  
9 area of the circuit and located proximate the first conductor and extending substantially parallel  
10 to and along the first conductor, the fifth conductor having a first end electrically coupled in the  
11 first area to the source and having a second end unconnected in the second area of the circuit,

12 wherein the fourth conductor and the fifth conductor are located substantially in the same  
13 plane as the first conductor.

1 14. (Previously Amended) The electrical conductor in accordance with Claim 11 wherein the  
2 coupling of the first conductor to the second conductor and to the third conductor decreases the  
3 effective capacitance of the first conductor thus decreasing the propagation delay time of an  
4 electrical signal when transmitted along the first conductor from the first area to the second area  
5 of the integrated circuit.

1 16. (Previously Amended) The electrical conductor in accordance with Claim 11 wherein the  
2 length of the first conductor is greater than about 1000 microns.



1 17. (Currently Amended) A conductor for transmitting a clocking signal from a first area to a  
2 second area of an integrated circuit, the conductor comprising:

3 a first elongated conductive portion having a first end and a second end extending from  
4 the first area to the second area;

5 a second elongated conductive portion having a first end and a second end and located  
6 proximate to and spaced apart from the first conductive portion and extending substantially  
7 parallel with the first conductive portion from the first area to the second area;

8 a third elongated conductive portion having a first end and a second end and located  
9 proximate to and spaced apart from the first conductive portion and extending substantially  
10 parallel with the first conductive portion from the first area to the second area, wherein the  
11 second conductive portion is disposed below the first conductive portion and the third  
12 conductive portion is disposed above the first conductive portion;

13 means for electrically connecting the first end of the first conductive portion to the first  
14 end of the second conductive portion;

15 means for electrically connecting the first end of the first conductive portion to the first  
16 end of the third conductive portion;

17 a source located within the first area and coupled to the first ends of the first, second and  
18 third conductive portions and capable of generating a clocking signal for transmission on the  
19 first conductive portion from the first area to the second area; and

20            wherein the first end of the first conductive portion is connected to a destination in the  
21            second area, and the first ends of the second and third conductive portions are unconnected to  
22            the destination.

1            18. (Previously Amended) The conductor in accordance with Claim 17 wherein the second  
2            conductive portion and the third conductive portion reduce the capacitive effects on the first  
3            conductive portion thereby reducing the propagation delay of the clocking signal when  
4            transmitted from the first area to the second area.

1            19. (Previously Amended) The conductor in accordance with Claim 18 wherein the respective  
2            length of each of the first conductive portion, the second conductive portion, and the third  
3            conductive portion is greater than about 1000 microns.

1 21. (Previously Added) A conductive structure for decreasing signal propagation delay,  
2 comprising:

3 a first conductor;

4 a second conductor substantially parallel to the first conductor;

5 at least one switch selectively connecting the first conductor to the second conductor,  
6 wherein the first and second conductors carry a single signal when the switch is closed and are  
7 available to carry independent signals when the switch is open.

1 22. (Previously Added) The conductive structure in accordance with Claim 21, wherein the at  
2 least one switch is closed when the conductive structure carries a signal requiring reduced  
3 propagation delay and is open when the conductive structure carries a signal not requiring  
4 reduced propagation delay.

1 23. (Previously Added) The conductive structure in accordance with Claim 21, further  
2 comprising:

3 a third conductor substantially parallel to the first conductor;

4 at least one other switch selectively connecting the first conductor to the third conductor,  
5 wherein the first, second and third conductors carry a single signal when the switch is closed  
6 and are available to carry independent signals when the switch is open.

1 24. (Previously Added) The conductive structure in accordance with Claim 23, wherein the at  
2 least one switch and the at least one other switch each further comprise:

3 a first switch proximate a first end of a respective pair of the first, second and third  
4 conductors; and

5 a second switch proximate a second end of a respective pair of the first, second and third  
6 conductors.

1 25. (Previously Added) The conductive structure in accordance with Claim 23, wherein the  
2 second conductor is disposed proximate to and below the first conductor and the third conductor  
3 is disposed proximate to and above the first conductor.

1 26. (Previously Added) The conductive structure in accordance with Claim 23, wherein the  
2 second and third conductors decrease an effective capacitance of the first conductor when the  
3 at least one switch and the at least one other switch are closed, decreasing propagation delay of  
4 an electrical signal transmitted along the first conductor.

Please add the following new claims:

1 27. (Newly Added) The apparatus in accordance with Claim 1, further comprising:  
2 at least one switch selectively connecting the first conductor to the second conductor,  
3 wherein the first and second conductors carry a single signal when the switch is closed and are  
4 available to carry independent signals when the switch is open.

1 28. (Newly Added) The apparatus in accordance with Claim 27, wherein the at least one switch  
2 is closed for transmission of a signal requiring reduced propagation delay and is open for  
3 transmission of a signal not requiring reduced propagation delay.

1 29. (Newly Added) The apparatus in accordance with Claim 27, further comprising:

2 at least one other switch selectively connecting the first conductor to the third conductor,  
3 wherein the first, second and third conductors carry a single signal when the at least one switch  
4 and the at least one other switch are closed and are available to carry independent signals when  
5 the at least one switch and the at least one other switch are open.

1 30. (Newly Added) The apparatus in accordance with Claim 29, wherein the at least one switch  
2 and the at least one other switch each further comprise:

3 a first switch proximate a first end of a respective pair of the first, second and third  
4 conductors; and

5 a second switch proximate a second end of a respective pair of the first, second and third  
6 conductors.